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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,933	07/07/2003	Kazuhiro Ando	239804US2	6925
22850	7590	10/20/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			NEGRON, ISMAEL	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/612,933

Applicant(s)

ANDO ET AL.

Examiner

Ismael Negron

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,9-15 and 18 is/are rejected.
- 7) ☒ Claim(s) 7,8,16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20031113.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Title*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: **Image Sensor Lighting Device Having Light Blocking Means.**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-6, 9, 10, 12-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over TANIMIZU (U. S. Pat. 5,331,146) in view of LANDA (U.S. Pat. 4,473,865).

TANIMIZU discloses an image scanning device having:

- **a light source (as recited in claims 1 and 10)**, Figure 1, reference number 1;
- **an object (as recited in claims 1 and 10)**, Figure 1, reference number 2;
- **the light source illuminating the object (as recited in claims 1 and 10)**, column 4, lines 4 and 5;

- **part of the light emitted by the light source illuminating the object directly from the light source (as recited in claims 1 and 10), as seen in Figure 1;**
- **a light blocking member (as recited in claims 1 and 10), Figure 1, reference numbers 11a and 11b;**
- **the blocking member being provided between the light source and the object (as recited in claims 1 and 10), as seen in Figure 1;**
- **the light blocking member blocking part of the light emitted by the light source (as recited in claims 1 and 10), as evidenced by Figure 1;**
- **a light transmitting member (as recited in claims 3 and 12), Figure 1, reference number 4;**
- **the object being placed on the transmitting member (as recited in Claim 3), column 4, lines 24 and 25;**
- **the light transmitting member being provided between the object and the light source (as recited in claims 3 and 12), as seen in Figure 1;**
- **the blocking member being provided to the transmitting member (as recited in claims 3 and 12), column 4, lines 58-60;**
- **the blocking member being held on the transmitting member (as recited in claims 4 and 13), column 4, lines 58-60;**

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- **the blocking member being provided as part of the transmitting member (as recited in claims 4 and 13), column 4, lines 58-60;**
- **the blocking member being formed integrally with the transmitting member by printing (as recited in claims 5 and 14), column 4, lines 64-68;**
- **the blocking member being formed integrally with the transmitting member by performing a surface processes on the transmitting member (as recited in claims 6 and 15) , column 4, lines 64-68;**
- **a light receiving element (as recited in claims 9 and 18), Figure 1, reference number 7;**
- **the light receiving element receiving light reflected from the object (as recited in claims 9 and 18), as seen in Figure 2;**
- **a focusing lens (as recited in claims 9 and 18), Figure 1, reference number 5;**
- **the lens condensing the light received from the object toward the light receiving element (as recited in claims 9 and 18), as evidenced by Figure 2; and**
- **the light-receiving element being an image sensor (as recited in claims 9 and 18), column 4, lines 42-50.**

TANIMIZU discloses all the limitations of the claims, except:

- a reflecting member (as recited in claims 1 and 10);
- the reflective member being provided opposite the light source (as recited in claims 1 and 10);
- the reflecting member directing to the object a first part of the light emitted by the light source (as recited in claims 1 and 10);
- a second part of the light emitted by the light source illuminating the object directly from the light source (as recited in claims 1 and 10);
- the blocking member being provided between the reflecting member and the object (as recited in claims 1 and 10);
- the light blocking member blocking first and second parts of light (as recited in claims 1 and 10);
- the blocking member blocking a certain ratio of the first part of light to the second part of light (as recited in claims 1 and 10); and
- the light transmitting member being provided between the object and the reflecting member (as recited in claims 3 and 12).

LANDA discloses an image scanning device having:

- **a light source (as recited in claims 1 and 10)**, Figure 2, reference number 6;
- **an object (as recited in claims 1 and 10)**, Figure 2, reference number 24;

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- **the light source illuminating the object (as recited in claims 1 and 10), as seen in Figure 2;**
- **part of the light emitted by the light source illuminating the object directly from the light source (as recited in claims 1 and 10), as evidenced by Figure 2;**
- **a light blocking member (as recited by claims 1 and 10), Figure 2, reference number 4;**
- **the blocking member being provided between the light source and the object (as recited in claims 1 and 10), as seen in Figure 2;**
- **the light blocking member blocking part of the light emitted by the light source (as recited in claims 1 and 10), as evidenced by Figure 2;**
- **a reflecting member (as recited in claims 1 and 10), Figure 2, reference number 20;**
- **the reflective member being provided opposite the light source (as recited in claims 1 and 10), as seen in Figure 2;**
- **the reflecting member directing to the object a first part of the light emitted by the light source (as recited in claims 1 and 10), as seen in Figure 2;**

- **a second part of the light emitted by the light source illuminating the object directly from the light source (as recited in claims 1 and 10), as evidenced by Figure 2;**
- **a light transmitting member (as recited in claims 3 and 12) , Figure 2, reference number 22;**
- **the light transmitting member being provided between the object and the reflecting member (as recited in claims 3 and 12), as seen in Figure 2;**
- **the object being placed on the transmitting member (as recited in Claim 3), column 2, lines 50 and 51;**
- **the light transmitting member being provided between the object and the light source (as recited in claims 3 and 12), as seen in Figure 2;**
- **the blocking member being held on the transmitting member (as recited in claims 4 and 13), as seen in Figure 2.**

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to include the light reflecting member of LANDA in the image scanning device of TANIMIZU, to illuminate the object from a plurality of angles to reduce shadows from surface projections of the object, improving the performance of the device, as per the teachings of LANDA (see column 2, lines 56-64).

In addition, the Examiner take Official Notice of applicant's statement regarding the old and well known in the art status of reflectors used in image scanners to reduced



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shadows formed by illuminating an object from only one direction, by redirecting light from a light source to illuminate the object from a direction different than the primary direction from the light source. See paragraph 0009 of the instant application.

3. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over TANIMIZU (U. S. Pat. 5,331,146) in view of LANDA (U.S. Pat. 4,473,865).

The teachings of TANIMIZU and LANDA disclose individually, or suggest in combination, all the limitations of the claims, except the distance from the reflecting member to the object being less than the distance from the light source to the object.

It would have been obvious to one of ordinary skill in the art at the time the invention was made arrange the reflecting member closer to the object than the from the light source, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only ordinary skill in the art. *In re Aller*, 105 USPQ 233. In this case, positioning the reflector closer to the object than the light source would have flown naturally to one of ordinary skill to provide the object with substantially equal illumination from the reflecting member than from the light source directly.

#### **Relevant Prior Art**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Hulbert, Jr.** (U.S. Pat. 3,754,135) and **Shackelford** (U.S. Pat. 4,209,825) disclose illumination devices having a light source, a reflector and means to block light rays emitted directly from the light source.

**Hata et al.** (U.S. Pat. 5,254,847), **Araki et al.** (U.S. Pat. 5,255,116), **Fujinawa et al.** (U.S. Pat. 5,859,734), **Saito et al.** (U.S. Pat. 6,017,130), **Bohn** (U.S. Pat. 6,033,086), **Ogura et al.** (U.S. Pat. 6,172,356) and **Hagata et al.** (U.S. Pat. 6,239,421) disclose image scanning devices having a light source, a focusing lens and an image sensor. Some include reflective elements or light masking means.

***Allowable Subject Matter***

5. Claims 7, 8, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

7. Applicant teaches an image sensor light source having a light source, a light-reflecting member and light blocking members. The light-blocking members are disposed between the object and the light source and reflecting member, respectively. The light-blocking members are arranged to control the ratio of illumination provided to an object of illumination directly from the light source, to the illumination provided by reflection from the light-reflecting member, such ratio being equal to one.

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### Conclusion


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negrón whose telephone number is (571) 272-2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached on (571) 272-2378. The facsimile machine number for the Art Group is (703) 872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.

  
Inr

October 13, 2004

  
**JOHN ANTHONY WARD**  
**PRIMARY EXAMINER**